



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/758,390	01/15/2004	Frederick Paul Renken	STL11265	5446
26861 7590 10/31/2007 SEAGATE TECHNOLOGY LLC INTELLECTUAL PROPERTY DEPT. - COL2LGL 389 DISC DRIVE LONGMONT, CO 80503			EXAMINER KAYRISH, MATTHEW	
			ART UNIT 2627	PAPER NUMBER
			MAIL DATE 10/31/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/758,390

Applicant(s)

RENKEN ET AL.

Examiner

Matthew G. Kayrish

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 21-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 21-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 8/6/2007 have been fully considered but they are not persuasive.

Regarding the argument that the aperture of Davis is not closed, the examiner respectfully disagrees. In figure 9B, the notch [164] and the pivot surface [170] meet upon the bending of the tether [174], therefore closing the aperture. This is supported in column 7, lines 21-42. Therefore, claim 1 is still met by Davis et al (US Patent Number 6778362). Claim 1 has been amended. Claims 12-20 have been canceled. Claims 21-29 have been added.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) The invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-7 and 21-27 are rejected under 35 U.S.C. 102(e) as being anticipated by Davis et al (US Patent Number 6778362).

Regarding claims 1 and 21-23, Davis discloses:

A head suspension comprising:

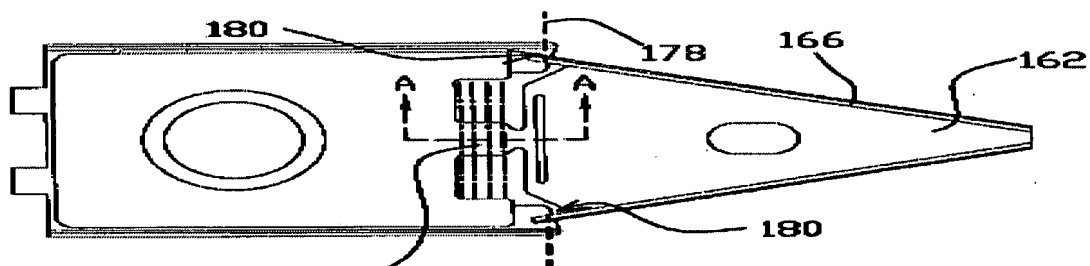
A mounting region (figure 9A, item 168);

A bend region adjacent the mounting region (figure 9B, item 178) comprising:

A bend member (figure 9B, item 180); and

A closed (column 7, lines 21-42) aperture bounded by the bend member and the mounting region (figure 9B below); and

A load beam region with a damping material support structure (figure 9A, items 174 & 176) adjacent the bend member (figure 9A), the damping material support structure offset from the bend member and extending into the aperture (figure 9A, items 174 & 176 are in the aperture).



Regarding claims 2 and 24, Davis discloses the features of base claims 1 and 23, as stated in the 102 rejections above, and further discloses:

The load beam region comprises:

A proximal end adjacent the bend region (figure 9B, area adjacent the aperture);

A distal end with a rigid portion (figure 9B, item 162), the distal end extending from a proximal end (figure 9B); and

A flexure affixed to the rigid portion supporting a read/write head (column 1, lines 16-41).

Regarding claim 3, Davis discloses the features of base claim 2, as stated in the 102 rejection above, and further discloses:

The damping material support structure extending into the aperture from the proximal end of the load beam (figure 9A, items 174 & 176 extend into the aperture).

Regarding claims 4 and 25, Davis discloses the features of base claims 2 and 24, as stated in the 102 rejections above, and further discloses:

The load beam further comprises a stiffening rail commencing at the proximal end of the load beam and extending to the rigid portion of the load beam (figure 9A, item 166).

Regarding claims 5 and 26, Davis discloses the features of base claims 2 and 24, as stated in the 102 rejections above, and further discloses:

The bend member is a strut adjacent the damping material support structure (figure 9A, items 164 & 170, column 7, lines 21-42), the strut extending from the mounting region and terminating at the proximal end of the load beam region (figure 9B).

Regarding claims 6 and 27, Davis discloses the features of base claims 5 and 26, as stated in the 102 rejections above, and further discloses:

The strut is a plurality of struts, and in which the mounting region, the damping material support structure and the plurality of struts form boundaries of the aperture (figure 9B, 2 struts, mounting region and damping material support structure enclose aperture).

Regarding claim 7, Davis discloses the features of base claim 5, as stated in the 102 rejection above, and further discloses:

The strut is a plurality of struts, and in which the damping material support structure, the plurality of struts along with the proximal end of the load beam region form boundaries of an isolation aperture, the isolation aperture precludes interference by the damping material support structure with the plurality of struts (figure 9B, 2 struts, mounting region and damping material support structure enclose aperture).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 8-11, 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis et al, in view of Wittig et al (US PG-Pub 2002/0141114).

Regarding claim 8, Davis discloses the features of base claim 7 as stated in the 102 rejection above, but Davis fails to specifically disclose:

The proximal end of the load beam region comprises a partially etched mass adjustment area.

Wittig disclose:

The proximal end of the load beam region comprises a partially etched mass adjustment area (figure 3A, items 54, 76 and 80, paragraph 38).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the damper support member and the load beam of Davis with a mass adjustment area, as taught by Wittig, because this will help to adjust the damper resonance frequency, as stated by Wittig in paragraph 38.

Regarding claims 9 and 29, Davis and Wittig disclose the features of base claims 8 and 24, as stated in the 103 and 102 rejections above, but Davis fails to specifically disclose:

The proximal end of the load beam portion supports the damping material affixed to the partially etched mass adjustment area.

Wittig discloses:

The proximal end of the load beam portion supports the damping material affixed to the partially etched mass adjustment area (figure 2, items 88 & 90 cover the entire damper beam).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide Davis with damping material which covers the entire damper support beam, as taught by Wittig, because this can then control the lateral movement of the damper supporting member, as stated in paragraph 40.

Regarding claims 10 and 28, Davis and Wittig disclose the features of base claims 9 and 27, as stated in the 103 and 102 rejections above, but Davis fails to specifically disclose:

The damping material partially obstructs the isolation aperture, and further in which the damping material is supported by the damping material support structure in addition to being supported by the plurality of struts.

Wittig discloses:

The damping material partially obstructs the isolation aperture, and further in which the damping material is supported by the damping material support structure in addition to being supported by the plurality of struts (figure 2, items 88 & 90 are supported on the damper support member as well as along the outside of the aperture).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the load beam of Davis with a damping member that is supported by the damper support member and the struts, as taught by Wittig, because this can then control the lateral movement of the damper supporting member, as stated in paragraph 40, and will further help to control the movement of the struts in the same manner.

Regarding claim 11, Davis and Wittig disclose the features of base claim 10, as stated in the 103 rejection above, but Davis fails to specifically disclose:

The damping material has a damping coefficient higher than the damping coefficient of the material of the plurality of struts.

Wittig discloses:

The damping material has a damping coefficient higher than the damping coefficient of the material of the plurality of struts (paragraph 40, visco-elastic material has a higher damping coefficient than the load beam which is made of metal or resin).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide Davis with a damper material having a greater damping coefficient than the struts, as taught by Wittig, because damping members are meant to damp vibrations of the load beam, gimbal or the head, which are caused by actuation or windage or turbulent fluctuations.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Art Unit: 2627

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew G. Kayrish whose telephone number is 571-272-4220. The examiner can normally be reached on 8am - 5pm M-F.

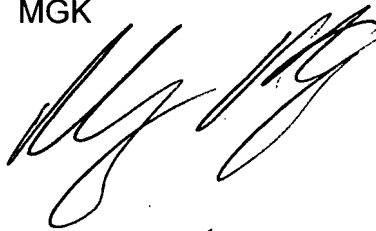
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571-272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Matthew G. Kayrish

10/25/2007

MGK


10/25/07

**Brian E. Miller /Brian E. Miller/
Primary Patent Examiner AU2627**